

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

1 (currently amended): High yield ratio high-strength thin steel sheet superior in spot weldability and ductility, containing, by mass %,

C: over 0.030 to less than 0.10%,

Mn: 1.7 to 2.49%,

P: 0.001 to 0.02%,

S: 0.0001 to 0.006%,

Al: 0.060% or less,

N: 0.0001 to 0.0070%,

~~characterized by the steel sheet containing:~~

Si: 0.54 to 0.65%

Ti: 0.01 to 0.055%,

Nb: 0.012 to 0.055%,

Mo: 0.07 to 0.55%,

B: 0.0005 to 0.0040%, and

simultaneously satisfying

$$1.1 \leq 14 \times \text{Ti} (\%) + 20 \times \text{Nb} (\%) + 3 \times \text{Mo} (\%) + 300 \times \text{B} (\%) \leq 3.7,$$

the balance comprised of iron and unavoidable impurities, and having a microstructure composed of lower bainite or bainitic ferrite as a main phase which constitutes over 85% of the area of the microstructure,

and

having a yield ratio of more than 0.64 to less than 0.90, a $\text{TS} \times (\text{E1})^{1/2}$ of 3320 or more, an $\text{YR} \times \text{TS} \times (\text{E1})^{1/2}$ of 2320 or more, and a maximum tensile strength (TS) of 780 MPa or more, and

having the maximum value of CTS when welding test pieces by a welding current of CE 10 times as “1”, the maximum value of CTS when welding by a welding current of the region of occurrence of expulsion and surface flash; $(CE + 1.5) KA$ is made 0.8 or more, where CTS is a tensile load in the biaxial tensile test.

2 (original): High yield ratio high-strength thin steel sheet superior in weldability and ductility as set forth in claim 1, characterized by further containing, by mass %, one or two of

Cr: 0.01 to 1.5%,

Ni: 0.01 to 2.0%,

Cu: 0.001 to 2.0%,

Co: 0.01 to 1%,

W: 0.01 to 0.3%.

3 (previously presented): High yield ratio high-strength hot-rolled steel sheet superior in weldability and ductility as set forth in claim 1 or 2, characterized in that said yield ratio is 0.72 to less than 0.90 and in that an X-ray intensity ratio of a {110} plane parallel to the sheet surface at 1/8 the thickness of the steel sheet is 1.0 or more.

4 (previously presented): High yield ratio high-strength cold-rolled steel sheet superior in weldability and ductility as set forth in claim 1 or 2, characterized in that said yield ratio is more than 0.64 to less than 0.90 and in that an X-ray intensity ratio of a {110} plane parallel to the sheet surface at 1/8 the thickness of the steel sheet is less than 1.0.

5 (original): High yield ratio high-strength hot-dip galvanized steel sheet superior in weldability and ductility, characterized by comprising hot-rolled steel sheet comprised of the chemical components described in claim 3 and hot-dip galvanized.

6 (original): High yield ratio high-strength hot-dip galvanized steel sheet superior in weldability and ductility, characterized by comprising hot-rolled steel sheet comprised of the chemical components described in claim 3, hot-dip galvanized, and alloyed.

7 (original): High yield ratio high-strength hot-dip galvanized steel sheet superior in weldability and ductility, characterized by comprising cold-rolled steel sheet comprised of the chemical components described in claim 4 and hot-dip galvanized.

8 (original): High yield ratio high-strength hot-dip galvanized steel sheet superior in weldability and ductility, characterized by comprising cold-rolled steel sheet comprised of the chemical components described in claim 4, hot-dip galvanized, and alloyed.

9 to 14: (canceled).